A Big Earth Data Platform for Three Poles

**The Russian frozen soil dataset (1:250,000) (1991-1998)**

1、Description

The source of the data is a 1:2500000-scale map series, "Geocryological Map of Russia and Neighboring Republics", published by Russia from 1991 to 1996, which is labelled in Russian and includes a total of 16 images. In 1998, Zaitsev and others translated it into English. In this study, seven of the images were digitized: 1) Distribution of frozen and unfrozen ground, 2) Mean annual temperature of unfrozen ground at the depth of zero annual amplitude (note that there is some uncertainty because the depth of zero amplitude is not provided, and data on this parameter is generally lacking), 3) Thickness of permafrost, 4) Depth from the surface and thickness of relict permafrost, 5) Distribution of permafrost containing cryopegs, 6) Thickness of permafrost containing cryopegs, 7) Distribution of permafrost with depth.  
1. The data include multiple vector layers: (1) permafrost distribution, (2) permafrost temperature, (3) permafrost thickness, (4) permafrost formation conditions, and (5) the correction image.  
2. The permafrost distribution map includes the following fields: AREA, PERIMETER, FROZEN\_, FROZEN\_ID: POLY\_, POLY\_, RINGS\_OK, RINGS\_NOK, A, FROZEN\_SOI (frozen soil layer), and temperature. FROZEN\_SOI are the Chinese and English representations of the type of frozen soil, respectively.  
4. Frozen soil properties:  
Frozen soil   
Continuous predominantly unfrozen 1-5  
Continuous permafrost -3- -5  
Continuous unfrozen ground 4-6  
Discontinuous permafrost 0.5- -2  
Predominantly continuous permafrost -1- -3  
Predominantly unfrozen ground 1-3  
5. Projection information:  
PROJCS["Asia\_North\_Equidistant\_Conic",  
 GEOGCS["GCS\_North\_American\_1927",  
 DATUM["North\_American\_Datum\_1927", SPHEROID["Clarke\_1866",6378206.4,294.9786982]],  
 PRIMEM["Greenwich",0.0],  
 UNIT["Degree",0.0174532925199433]],  
 PROJECTION["Equidistant\_Conic"],  
 PARAMETER["False\_Easting",0.0],  
 PARAMETER["False\_Northing",0.0],  
 PARAMETER["longitude\_of\_center",100.0],  
 PARAMETER["Standard\_Parallel\_1",15.0],  
 PARAMETER["Standard\_Parallel\_2",58.3],  
 PARAMETER["latitude\_of\_center",60.0],  
 UNIT["Meter",1.0]]

2、Keywords

Theme：Frozen ground distribution,Frozen Ground  
Discipline：Cryosphere  
Places：Russia and Northern Europe, Far East, Siberia, Russia, southern mountain area, mountains of Central Asia  
Time：1996, 1998, 1991-1996

3、Data details

1.Scale：2500000

2.Projection：Asia\_North\_Equidistant\_Conic

3.Filesize：41.78MB

4.Data format：shp

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：82.0 | - |
| west：26.0 | - | east：-168.0 |
| - | south：42.0 | - |

5、Time frame:1991-01-09 00:00:00+00:00--1999-01-08 00:00:00+00:00

6、Reference method

References to data:

Yershow. The Russian frozen soil dataset (1:250,000) (1991-1998). A Big Earth Data Platform for Three Poles, 2011

References to articles:

Yershow, (1996). Geocryological Map of Russia and Neighbouring Republics,Geocryology Department Geology Faculty,Moscow State university.  
  
Li, X., Nan, Z.T., Cheng, G.D., Ding, Y.J., Wu, L.Z., Wang, L.X., Wang, J., Ran, Y.H., Li, H.X., Pan, X.D., & Zhu, Z.M. (2011). Toward an improved data stewardship and service for environmental and ecological science data in west China. International Journal of Digital Earth, 4(4): 347-359. DOI: 10.1080/17538947.2011.558123.

7、Supporting project information

8、Data resource provider

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